

thetical cohort of 1,000 PCI patients/year (STEMI=6.4%, NSTEMI/UA=16.7%, stable angina=76.9%) treated with heparin+/-GPI (weighted average of 30.0% GPI use across diagnoses), use of bivalirudin+cangrelor+2.8% GPI provided a hospital \$0.95MM in clinical value. Cost-offsets were derived from a reduction in GPI use, lower ischemic and bleeding events. Sensitivity was assessed in using heparin+/-GPI; GPI%=70.6% (extreme from APEX-AMI trial) vs. bivalirudin+cangrelor+9.7% GPI where the clinical value was estimated at \$1.59MM. **CONCLUSIONS:** Use of bivalirudin+cangrelor during PCI delivers an estimated clinical value of at least \$950 per PCI-patient, \$1,590 in STEMI patients with improved clinical outcomes.

### PCV35

#### AN ECONOMIC EVALUATION OF HOSPITAL RESOURCE USE AND COSTS ASSOCIATED WITH A NEW AND INNOVATIVE SURGERY SYSTEM IN PACEMAKER AND DEFIBRILLATOR REPLACEMENTS

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**OBJECTIVES:** Complications like mechanical lead damage, major infections and hematomas during surgical replacement of pacemaker and implantable cardioverter defibrillator contribute to considerable additional costs for hospitals. This study aimed to evaluate the economic impact if the currently applied traditional surgical intervention (TSI) by using scissors, scalpels and electrocautery is replaced by a new and innovative surgical system, called PEAK PlasmaBlade™ (PPB). **METHODS:** A retrospective analysis examined 508 patients with TSI and 84 patients with PPB, who underwent generator replacement at the general hospital in Linz, Austria. Intraoperative complications (lead damages, infections, hematomas) and duration of operating time for TSI and PPB were analyzed. Economic analysis included the costs for personnel, facility and consumables as well as the estimates for the budget impact. **RESULTS:** Proportion of males (TSI = 59.4%; PPB = 63.1%) and mean age (TSI = 74.3±12.4, PPB = 74.2±12.9 years) were not significantly different between the two groups. The lead damage was significantly higher with TSI than with PPB (5.7% and 0.0%; p = 0.024) and the operation time with TSI was significantly longer than with PPB (47.5±24.0 and 27.8±6.4 minutes; p<0.0001). Other complications, like revisions of hematomas and infections (TSI = 1.6%; PPB = 2.4%), did not significantly differ between TSI and PPB. Reduced costs associated with operation room use, hospital staff and replacement of damaged leads resulted in a cost saving of € 124 per patient when using PPB instead of TSI. Based on estimated 2,600 patients annually undergoing generator replacement in Austria, the use of PPB may result in cost savings of € 321,000. **CONCLUSIONS:** PEAK PlasmaBlade™ has the potential to minimize the risk of lead damage while decreasing surgery time, resulting in a more efficient utilization of the operation room. Along with cost savings and improved quality of care hospitals may increase the number of daily surgeries.

### PCV36

#### IMPACT OF THE NEW CHOLESTEROL GUIDELINES IN A MANAGED CARE SETTING

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**OBJECTIVES:** The objective of this analysis is to examine the impact of the new ACC/AHA clinical practice guideline on pharmacy utilization of cholesterol drugs in a managed care setting. **METHODS:** Pharmacy claims from a national PBM over a one year period were used to project the number of potential members who will be starting or switching statin therapies. Potential members include members with diabetes or hypertension between 40-75 years of age and not on any cholesterol medications as well as members receiving lower-intensity statins or other non-statin cholesterol therapies. The current cholesterol market share was used to project pharmacy utilization for potential members that will be starting or switching therapies. Expert opinion was used in areas where information was not available in the medical literature. **RESULTS:** An estimated 11-19% of commercial and 38-45% of Medicare members not receiving any cholesterol agents may be potentially started on statin therapies. These new starts, along with the other members who may be switching from non-statin cholesterol agents or increasing their statin dosages, will be projected to increase the number of statin prescriptions approximately 75-80% in the commercial and 32-34% in the Medicare population. On the other hand, the number of non-statin cholesterol prescriptions is anticipated to decrease 47-67% and 70% in the commercial and Medicare population, respectively. **CONCLUSIONS:** The new cholesterol guideline is projected to have a huge impact on cholesterol drug utilization. Estimates are highly dependent on expert opinions and further statistical inference models will be applied in future studies to examine these uncertainties.

### PCV37

#### COMORBIDITY COST SAVINGS OVER 2 YEARS OF TREATMENT WITH PHENTERMINE AND TOPIRAMATE EXTENDED-RELEASE (PHEN/TPM ER) IN AN OVERWEIGHT AND OBESE POPULATION

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**OBJECTIVES:** This post-hoc analysis estimated comorbidity costs over 2 years with PHEN/TPM ER 7.5/46 mg compared with lifestyle modification (LM) alone for weight management in an overweight/obese population. **METHODS:** A 2-year model was developed from a health plan perspective estimating comorbidity cost offsets for a reduction in body mass index (BMI) and comorbidity costs for incident cases of hypertension, type 2 diabetes mellitus (T2DM), and dyslipidemia. BMI changes over 2 years were from SEQUEL, a 52-week extension study of CONQUER, a phase 3, 56-week trial that randomized patients to PHEN/TPM ER or placebo (all patients received LM). Cost offsets for BMI reduction were calculated by multiplying changes in BMI by the medical (\$164) and pharmacy (\$113) cost change per unit of BMI (Wang 2006). Incident comorbidity costs were based on patients who progressed from no medication use at baseline to use of ≥1 medication at endpoint of SEQUEL (Garvey 2012). Literature-based cost estimates of the annual cost of treating each

comorbidity were applied to the rates of disease progression to calculate costs. The cost of PHEN/TPM ER was not included in the analysis. **RESULTS:** BMI reductions over 2 years were 3.64kg/m<sup>2</sup> for PHEN/TPM ER 7.5/46 and 0.24kg/m<sup>2</sup> for LM, translating to cost offsets of \$1008 and \$67, respectively. Rates of progression to hypertension (15.8% vs 18.7%), T2DM (2.3% vs 5.6%), and dyslipidemia (12.8% vs 24.0%) were lower for PHEN/TPM ER 7.5/46 compared with LM, respectively. Assuming 1% market uptake of PHEN/TPM ER 7.5/46 over 2 years, the savings due to BMI-related comorbidity cost offsets is \$2,769,763 or \$0.12 per member per month (PMPM) and reduced progression to comorbidities is \$1,794,703 or \$0.07 PMPM. **CONCLUSIONS:** Treatment with PHEN/TPM ER 7.5/46 may be associated with comorbidity cost savings due to cost offsets for BMI reduction and reduced progression to comorbidities.

### PCV38

#### FINANCIAL IMPACT OF USING AN INNOVATIVE DEVICE ALGORITHM TO AUTOMATICALLY OPTIMIZE BIVENTRICULAR PACING DEVICES IN JAPAN

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**OBJECTIVES:** Incremental improvements are inherent in medical devices; many of these can offer significant financial benefits which, ultimately, improve the cost-effectiveness of already established technologies. Biventricular pacing, commonly combined with a defibrillator ("Cardiac Resynchronization Therapy – Defibrillator" or CRT-D), has been widely used in patients with Heart Failure (HF) to increase survival, improve QoL, and reduce HF hospitalizations. Nevertheless, traditional CRT-D devices require periodic manual reprogramming (a.k.a. "optimization") guided by echocardiography. Newer devices equipped with innovative algorithms (AdaptivCRT™, Medtronic, MN, USA) monitor heart electrical activity and automatically reprogram the device once-per-minute. In addition to eliminating the manual process, AdaptivCRT™ appeared to positively impact patient allocation to functional classes (as defined by the New York Heart Association – NYHA) against traditional echo-based device optimization. We investigated the financial implications of AdaptivCRT™ in Japan. **METHODS:** We conducted a Cost-Minimization Analysis (CMA), comparing AdaptivCRT™ with traditional optimization, using Markov processes. Patients progress from early-stage NYHA classes to more advanced disease, or death. The initial allocation of patients to the classes and the transition probabilities were based on the aCRT RCT. Each NYHA class is associated with higher levels of costs. We used the Japanese fee schedule, local HF treatment guidelines and prescription drug labelling to assess resource utilization within each class. **RESULTS:** Assuming 3,200 patients (the approximate number of Japanese CRT-D patients per annum), our model predicts overall cohort costs (excluding initial implant costs) of ¥16,545M (USD\$165M) with AdaptivCRT™ and ¥17,809M (USD\$178M) without. This equates to savings of approximately USD\$13M overall, or USD\$4,000 per patient. **CONCLUSIONS:** AdaptivCRT™ use appears associated with significant cost-offsets driven by superior outcomes. This demonstrates that incremental device therapy improvements can provide clinical and economic value. Further research should examine AdaptivCRT™ impact on health care utility and improvement in the overall cost-effectiveness of CRT-Ds.

### PCV39

#### INTERACTIVE PROBABILISTIC COST MODEL FOR COMPARISON REMOTE VERSUS IN-OFFICE MONITORING FOR CARDIAC RHYTHM DEVICE PATIENTS, IN A SPECIALIZED CARDIOVASCULAR CLINIC IN COLOMBIA

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**OBJECTIVES:** Develop a probabilistic and comparative cost analysis, from patient and hospital perspective of Remote vs. In-Office monitoring in patients with cardiac rhythm devices. **METHODS:** An economic interactive probabilistic cost model was built in excel. The cost variables were identified with patient and hospital KOL surveys regarding timing and cost related issues. Secondary data from a 2012 Heart Rhythm Society study was used. Medical outpatient direct costs were taken from the Clinic. Uncertainty adjustment was made to probabilistic variables. Beta, normal and Gamma distributions were used for probabilistic, time and cost variables. Min and max ranges were used when standard deviations were not available. After deterministic results, Monte Carlo simulation with 1000 iterations was done. The main statistic results obtained were deterministic and probabilistic average with their corresponding confident intervals, probabilistic density function and cumulative density function. **RESULTS:** Probabilistic patient total average costs for Remote monitoring was US\$18.5 (95% CI US\$2.0 – US\$152.6) in contrast to In-office monitoring with US\$ 51.41 (95% CI US\$ 5.0 – 386.7 US\$), which represents a 64% cost reduction and a narrow confident interval. Probabilistic outpatient hospital total average cost for Remote monitoring was US\$33.1 (95% CI US\$31 – US\$35.2) in contrast to In-Office monitoring with US\$ 63.9 (95% CI US\$ 59.3 – US\$68.8), which represents a 48% cost reduction and a narrow confident interval. In the cumulative distribution function for total patient cost and for total outpatient hospital cost, the probability for Remote monitoring to have a lower cost than each considered threshold was higher than In-Office interrogation for all values. **CONCLUSIONS:** This cost model allows comparing the probabilistic cost distribution of the Remote vs. In-Office Interrogation cardiac rhythm devices. The Remote monitoring costs are lower for the patient and for the ambulatory hospital services and are more predictable than In-Office interrogation costs.

### PCV40

#### COSTS OF ISCHEMIC STROKE WITH AND WITHOUT ATRIAL FIBRILLATION IN COLOMBIA

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**OBJECTIVES:** To estimate total costs and resource use of acute hospital care in a sample of patients with large vessel ischemic stroke treated at our University Hospital, comparing those with and without non-valvular atrial fibrillation